

INTERNATIONAL SEARCH REPORT

national Application No

T/GB2004/002949

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B23D61/04 B23D61/14 B23D65/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B23D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CH 446 859 A (NAEPFLIN HANS) 15 November 1967 (1967-11-15) the whole document	1,2,4, 6-10,15, 17-21
X	EP 0 665 075 A (WILLIAMSON T D SA) 2 August 1995 (1995-08-02) page 3, line 49 - line 51 page 4, line 16 - line 20 page 6, line 35 - page 7, line 29; figures 6-8	1-3, 9-11,22
X	US 2 964 078 A (PROCTOR GLEN E) 13 December 1960 (1960-12-13) column 1, line 71 - column 3, line 44; figures 2-4 ----- -/--	1,2,5,9, 10,12, 13,16

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

6 September 2004

Date of mailing of the international search report

13/09/2004

Name and mailing address of the ISA

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Frisch, U

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 945 289 A (BAEZ RIOS GUILLERMO) 23 March 1976 (1976-03-23) column 3, line 28 - column 5, line 56; figure 1 -----	23,26-28
X	DE 27 30 912 A (SPIELVOGEL ERNST) 11 January 1979 (1979-01-11) page 7, paragraph 5 - page 9, paragraph 1; figures 1,2 -----	23,26-28
A		14,24,25

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 29-31
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: 29-31

Claims 29 - 31 refer generally to the drawings such that it is not possible, to determine the matter for which protection is sought. Claims 29 - 31 fail to comply with the clarity and conciseness requirements of Article 6 PCT (see also Rule 6.1(a) PCT) to such an extent that a meaningful search is impossible. Consequently, the search has not been carried out for those parts of the application.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
CH 446859	A	15-11-1967	NONE	
EP 0665075	A	02-08-1995	AU 672132 B2	19-09-1996
			AU 7418294 A	10-08-1995
			BR 9500510 A	17-10-1995
			EP 0665075 A1	02-08-1995
			JP 7214411 A	15-08-1995
			US 5451128 A	19-09-1995
US 2964078	A	13-12-1960	NONE	
US 3945289	A	23-03-1976	BR 7602282 A	05-10-1976
			CA 1012038 A1	14-06-1977
			DE 2616497 A1	28-10-1976
			FI 760998 A , B,	15-10-1976
			FR 2307606 A1	12-11-1976
			GB 1532086 A	15-11-1978
			IT 1058110 B	10-04-1982
			JP 51138985 A	30-11-1976
			SE 423199 B	26-04-1982
			SE 7603571 A	15-10-1976
			ZA 7601747 A	30-03-1977
DE 2730912	A	11-01-1979	DE 2730912 A1	11-01-1979

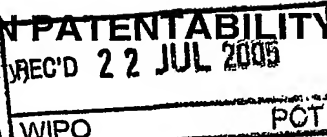
PATENT COOPERATION TREATY


PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference RRMPS/8927INT		FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/GB2004/002949		International filing date (day/month/year) 08.07.2004		Priority date (day/month/year) 08.07.2003
International Patent Classification (IPC) or national classification and IPC B23D61/04, B23D61/14, B23D65/00				
Applicant C4 CARBIDES PLC. et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 25.01.2005		Date of completion of this report 21.07.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Frisch, U Telephone No. +49 89 2399-7237		



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-7 as originally filed

Claims, Numbers

1-31 as originally filed

Drawings, Sheets

1/2-2/2 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 29-31

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for the said claims Nos. 29-31

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See separate sheet for further details

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	14,24,25
	No: Claims	1-13,15-23,26-28
Inventive step (IS)	Yes: Claims	14,24,25
	No: Claims	1-13,15-23,26-28
Industrial applicability (IA)	Yes: Claims	1-28
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

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Re Item III.

Claims 29 - 31 refer generally to the drawings such that it is not possible, to determine the matter for which protection is sought. Claims 29 - 31 fail to comply with the clarity and conciseness requirements of Article 6 PCT (see also Rule 6.1(a) PCT) to such an extent that a meaningful search and examination is impossible.

Re Item V.

1 The following documents are referred to in this communication:

- D1 : CH 446 859 A (NAEPFLIN HANS) 15 November 1967 (1967-11-15)
- D2 : EP 0 665 075 A (WILLIAMSON T D SA) 2 August 1995 (1995-08-02)
- D3 : US 2 964 078 A (PROCTOR GLEN E) 13 December 1960 (1960-12-13)
- D4 : DE 27 30 912 A (SPIELVOGEL ERNST) 11 January 1979 (1979-01-11)
- D5 : US 3 945 289 A (BAEZ RIOS GUILLERMO) 23 March 1976 (1976-03-23)

2 INDEPENDENT CLAIM 1

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.
Document D1 discloses (the references in parenthesis applying to this document):
A saw blade (4) comprising a relatively soft carrier supporting a plurality of relatively hard teeth (1-3), wherein the teeth are of differing characteristics (c.1, l.35, Fig.2-4).

The features of claim 1 are also known from D2 and D3.

3 INDEPENDENT CLAIM 9

- 3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 9 is not new in the sense of Article 33(2) PCT.
Document D1 obviously also discloses a method according to claim 9 (see above under point 2.1).

4 INDEPENDENT CLAIM 20

- 4.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 20 is not new in the sense of Article 33(2) PCT. Document D1 obviously also discloses hard teeth according to claim 20 (see above under point 2.1).

5 INDEPENDENT CLAIM 23

- 5.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 23 is not new in the sense of Article 33(2) PCT. Document D5 discloses (the references in parenthesis applying to this document): A tooth (15) for a saw blade, the tooth having a root for attachment to a carrier of the blade and a head forming a cutting portion of the tooth, the root and head being separated by a transition region which, when the tooth is viewed in side view transverse to the cutting direction, is in the shape of a neck as a consequence of having a width less than the maximum width of the root and less than the maximum width of the head (Fig.1)

6 DEPENDENT CLAIMS 2-8, 10-13, 15-19, 21, 22, 26-28

Dependent claims 2-8, 10-13, 15-19, 21, 22, 26-28 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

7 DEPENDENT CLAIMS 14, 24, 25

The combination of the features of dependent claims 14, 24, 25 are neither known from, nor rendered obvious by, the available prior art. The reasons are as follows: By the provision of a root having a periphery edge being sufficiently sharp to enable the insert to be forced into the carrier from one side thereof each tooth may cut its own aperture. A pre-formed slot or hole in the carrier is not necessary.